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ABSTRACT

This report arrives at the composite estimate of Federal funding of education knowledge production and utilization (KPU) for FY 1975 by examining and comparing four data bases with respect to four definitional issues and then proposing a definition of the boundaries of the domain of interest to NIE and the Subcommittee on Research, Development, Dissemination, and Evaluation. Highlights of the report include: (1) Federal education KPU obligations are estimated to be $513 million in FY 1975; (2) education KPU activity includes research, development, demonstration, dissemination, and evaluation; (3) no one data base adequately covers all education KPU activity in all Federal agencies; and (4) according to the composite estimate based on four data bases, HEW obligated 82,4% of the total. (MM)

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R&D SYSTEM STUDIES

TECHNICAL REPORT #1

1975 FEDERAL FUNDING FOR EDUCATION

KNOWLEDGE PRODUCTION AND UTILIZATION:

A COMPOSITE ESTIMATE, BY AGENCY, USING FOUR DATA BASES

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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SP 010 839

The National Institute of Education
U.S. Department of Health, Education and Welfare
Washington, D.C. 20208

HIGHLIGHTS

- Federal education Knowledge Production and Utilization obligations are estimated to be $513 million in Fiscal Year 1975.
- Education KPU activity includes research, development, demonstration, dissemination, and evaluation.
- No one data base adequately covers all education KPU activity in all Federal agencies; therefore a composite estimate was developed.
- According to the composite estimate based on the four data bases, HEW obligated $422.9 million for education KPU, or 82.4% of the total.
- The Education Division of HEW obligated $358.8 million for education KPU, or 69.9% of the total.
- The Office of Education obligated $264.4 million for education KPU, or 51.5% of the total.
- NIE obligated $73.8 million for education KPU, or 14.4% of the total.
- The Department of Defense is estimated to obligate $21.4 million for education KPU, or 4.2% of the total.

Technical Reports are designed to provide basic descriptive data on major aspects of the R&D system for education such as funding, organizations, and personnel. Findings are presented with a minimum of interpretation, but with enough conceptual and methodological detail for the reader to make judgments concerning the validity of the data. Interpretative reports and policy analyses will be issued separately, relying on the technical reports to provide methodological detail.

1975 Federal Funding for Education Knowledge Production and Utilization: A Composite Estimate, by Agency, Using Four Data Bases

February, 1977

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INTRODUCTION

In developing policy regarding the funding of education knowledge production and utilization (KPU), a natural starting place is to determine the level and type of support currently provided. It is known that the Federal government provides the bulk of support for KPU dealing with the K-12 school system and its extensions upward into post-secondary education and downward into pre-school training. However, attempts to arrive at good dollar estimates are fraught with the usual definitional issues. In particular:

- o What is meant by education? Does it include manpower training and informal learning?
- o Should the range of research and related functions be defined in broad or narrow terms, e.g. research? R&D? RDDE? KPU?
- o What agencies should be included? Are agencies and programs that have some other primary purpose but a secondary relevance for education to be included?
- o At what level of aggregation should data be collected--agencies? programs? projects?

As will be shown, various data bases answer each of these questions differently. By examining and comparing the four data bases with respect to these issues, then proposing a definition of the boundaries of the domain of interest to NIE and the FICE Subcommittee on RDD&E, this report arrives at the composite estimate of Federal funding for FY 1975.

THE FOUR DATA BASES

The four data bases are: 1) An Analysis of Federal R&D Funding by Function, by the NSF's Division of Science Resources Studies (NSF); 2) Office of Management and Budget's Special Analysis of Education (OMB); 3) National Academy of Sciences' "Study Project on Social Research and Development (NAS)", and 4) the project data bank of the Interagency Panels for Research and Development on Early Childhood and Adolescence (compiled by the Social Research Group of George Washington University--SRG).

National Science Foundation

The NSF survey (NSF, 1975) collects data on the support of R&D by Federal agencies. In its parlance education is a "function" on which it began reporting in 1969. It does not define education, but classifies

an R&D program as education R&D if it has a primary education mission. Following this rule, funding is reported for the three agencies in the Education Division and for education programs in the Office of Human Development, National Institutes of Health and National Science Foundation. It includes only research and development activity in its data base, excluding policy analysis, dissemination, implementation, demonstration, and evaluation. Data are reported by agencies in response to an annual questionnaire.

Office of Management and Budget

OMB publishes Special Analyses of the budget of the U.S. Government which provide a way of looking across agencies to get a picture of the total Federal effort in a given program area. The data used in this report come from section H dealing with Federal education programs which contains a special breakout for research and development.1/ OMB criteria for inclusion in its Special Analyses of education are the purposes of the program: support of student-teacher relationships for the transmission of organized knowledge, or the provision of services to the community-at-large aimed at expanding individuals' opportunities for professional or career advancement (OMB, 1976, p. 161).

In addition to research and development activities, OMB includes experimental and demonstration projects, dissemination of both education research and development results, and the evaluation of program effectiveness. The analysis is based on program level data provided by all Federal agencies.

Although OMB collects data on which education is either a primary or secondary goal, it reports only those programs which have education as their primary goal. (However, OMB has made available to NIE data on programs with a secondary goal in education, and both kinds are reported in the table below). By using program level data, many subsidiary projects which have an educational component are excluded. Since agencies provide data on themselves, the validity and reliability of the results may be affected by variations in the interpretation of definitions and instructions. OMB reports data at the agency level only. Finally, OMB reports outlays not obligations as do the other data sources. Outlays are actual payments made while obligations are commitments, which may precede expenditure by a year or more.

1/ Note that research and development reported in the education analysis is not the same as that reported for education in Special Analysis O, Federal Research and Development Programs. Data in the latter analysis correspond to the NSF data.

National Academy of Sciences

The NAS data base results from a one-time study of social research and related activity which includes education as one of 15 mutually exclusive policy areas. (See Mason and Craig, 1976 for a detailed description of this data base). No formal definition of education is provided; rather, it is defined by listing the sub-areas to be included and excluded. The following are the sub-areas included under education: pre-school; elementary; secondary; vocational; higher education; handicapped; occupational; basic research in education; education service delivery (i.e., educational finance, school administration); and adult education. Two sub-areas usually thought to be a part of education, namely health education and science education, are excluded from education and included in health policy and science and technology, respectively; they are identified there as sub-categories. In NIE's analysis of the NAS data these two sub-areas have been included as part of education. Cultural affairs, another of the 15 social policy areas, focuses on the arts and humanities. Programs in this area are included in NIE's analysis if the programs are relevant to schooling. Another social policy area, employment, manpower and training is closely related to education and may sometimes overlap with it. Data from the social policy area are included in NIE's analysis if upon more detailed examination, the programs were found to be directly relevant to schools or involved in basic research on cognitive or socio-emotional development.

NAS classified its data base into seven functions and 26 sub-functions. The seven functions are: research, demonstrations, development of materials, dissemination activities, routine Federal statistical programs, evaluation activities, and training and fellowships. In the analyses reported here one function (training and fellowships) and one sub-area (program or administrative data), were excluded entirely. One sub-area (miscellaneous demonstrations) has been excluded except where indicated.

Data were collected and coded by a team trained in the meaning and application of the definitions. In addition, the backup material on each of the programs are provided as a potential check to the validity and reliability of the data.

The NAS data base offers two advantages over NSF's and OMB's: 1) a detailed classification of KPU functions was provided; and 2) the availability of field notes makes it possible to partition program totals to some extent where this seems appropriate, although the flexibility associated with project data is not possible. Data were collected

on four variables: agency/program; social policy area; R&D function, and fiscal year (1975-1977).[2/]

Social Research Group

The only data base which contains project level data is that collected for the Interagency Panels for Research and Development on Early Childhood and Adolescence by the Social Research Group of George Washington University (Hertz & Mann, 1975; Heyneman, 1975). (NIE is now preparing a special analysis using this data base). SRG classifies a project as dealing with education if the project: 1) investigates, evaluates, or demonstrates the provision of instruction to children or adolescents; the use of educational curriculum for children or adolescents; the use of innovative teaching procedures or approaches to instruction; the use or development of instructional materials for children or adolescents; or 2) conducts basic research in either cognitive development (the processes by which knowledge is acquired) or socio-emotional development (the processes of socialization).

The major advantages of the SRG data base are its detailed classification of project content and its potential to be used for fine-grained analyses. The major problem is its lack of comprehensiveness. Relative to NAS, its coverage is incomplete with respect to agencies, age groups, topical areas, and functions:

- o Only data from member agencies of the Interagency Panels on Research in Early Childhood and Adolescence are included. Hence, the National Science Foundation and the National Center for Education Statistics are excluded.
- o Projects dealing with adult and post-secondary education typically are omitted.
- o Projects that do not focus on individual learning or development are usually excluded, e.g. projects dealing with teaching, school organization, or education finance.
- o General purpose statistical activities are excluded.
- o Some dissemination activities are excluded.

2/ Data for 1976 and 1977 represent current year estimates and planning projection rather than actual obligations and are not considered in this report.

DEFINING THE EDUCATION KNOWLEDGE PRODUCTION AND UTILIZATION DOMAIN

It is beyond the scope of this paper to present an analysis of the conceptual problems in defining the education KPU domain. For those who are interested, there are several other reports that are useful. (Churchill, 1974; Mason and Craig, 1976). In order to compare the four data bases and arrive at the best estimate of Federal funding of education KPU in FY 1975 the following decision rules were followed:

- NIE defines the scope of KPU functions broadly to include all knowledge production and utilization activities. Specifically, the seven functions defined by the NAS study are included: research; statistical activities; program evaluation; policy formulation demonstrations; policy implementation demonstrations; development of materials; and dissemination. One sub-function defined but not tabulated by NAS is omitted--policy or administrative data. Miscellaneous demonstration, which were excluded by NAS, are included by NIE if these demonstrations contain an evaluation component and produce outputs that are transferable to other schools.

- When the several data bases differ on whether a program is education related, program information is used to make a determination. For basic research the criterion is relevance to cognitive or socio-emotional development. For other functions the criterion is similarity or relevance to programs provided by the formal education system. For the NAS data, NIE includes education, science education and health education programs. Cultural affairs and manpower training programs are included on a selective basis only if they meet the above criteria.

- Programs from any agency providing data to any of the four data bases are included if their programs meet the criteria specified above.

COMPARISON OF FUNDING BY AGENCY OR PROGRAM

In this section of the report, NIE will compare the level of funding for each agency or program for the four data bases and will indicate a best estimate based on the criteria specified in the previous section. (See Table 1).

I. Department of Health, Education and Welfare

Five major segments of HEW are involved in education KPU: the Education Division; the Public Health Service; the Office of Human Development; the Assistant Secretary for Planning and Evaluation; and Social and Rehabilitative Service.

A. Education Division

Three agencies comprise the Education Division: The Office of Education; the National Institute of Education; and the Office of the Assistant Secretary for Education.

1. Office of Education

Four bureaus and three offices of the Office of Education are involved in education KPU.

a. Bureau of School Systems. This Bureau consists of five divisions that are engaged in education KPU; however, funds from a given piece of legislation may be allocated to more than one program or division. For example Title III funds are administered by a number of divisions. Therefore, it is exceedingly difficult to compare project and program level data. NAS program level data are the basis of the NIE estimates with certain exceptions.

(1) Division of Supplementary Centers and Services. The discrepancy between NAS and SRG data for this division is caused partly by SRG omitting $3 million in funds for the National Diffusion Network. This program is clearly a utilization activity, and therefore NIE accepts the NAS figure of $10 million as the best estimate for this Division.

(2) Division of Equal Opportunity Program Development. NAS reports $7.8 million for television program development under Emergency School Aid. Because these

Table 1. Federal expenditures for education knowledge production and utilization, by department and agency, FY 1975, as indicated in various data sources, together with NIE's composite estimate (dollars in thousands).

Department and Agency	Four Data Bases				NIE's Estimate
	Obligations			Outlays	(Obligations
	NAS	SRG	NSF	OMB	
Total	430,439	295,186	161,200	442,187	513,044
Departments					
I. Department of HEW	306,989	293,645	138,400	347,249	422,854
A. Education	283,448	253,346	128,300	336,964	358,833
1. Office of Education	193,831	207,889	45,800	244,081	264,458
a. Bur. of School Systems	71,768	56,131	–	47,353	70,312
(1) Supplementary Ctrs.	10,000	5,808	–	–	10,000
(2) Equal Opportunity	7,800	640	–	3,371	640
(3) Follow Through	52,464	42,910	–	42,865	52,464
(4) Environmental Ed.	1,069	6,773	–	–	6,773
(5) Drug Education	435	–	–	–	435
b. Bur. Occ./Adult Ed.	43,086	7,416	34,900	44,674	43,086
c. Bur. Ed. for Handicapped	33,722	44,750	9,600	37,548	33,722
d. Off. of the Commissioner	20,382	79,034	1,300	33,975	84,235
(1) Off. of Bilingual Ed.	4,702	68,555	–	–	68,555
(2) Right to Read	5,257	2,312	–	–	5,257
(3) Off. of Career Ed.	10,423	8,167	–	–	10,423
e. Off. Plan/Budget/Eval.	17,103	9,012	–	–	17,103
f. Bureau Post-Secondary Ed.	4,470	–	–	1,487	3,800
g. Office of Indian Education	3,300	11,546	–	1,619	12,200
h. Other	–	–	–	77,825	–
(1) Ed. Development	–	–	–	76,711	–
(2) Library	–	–	–	831	–
(3) Salaries & Expenses	–	–	–	283	–
2. National Institute of Ed.	73,820	45,457	69,900	82,770	73,820
a. Basic Skills	20,798	NA	NA	NA	20,798
b. Finance and Productivity	19,543	NA	NA	NA	19,543
c. Education & Work	15,478	NA	NA	NA	15,478
d. Educational Equity	8,465	NA	NA	NA	8,465
e. Diss. & Resources	6,933	NA	NA	NA	6,933
f. School Capacity Prob/Solve	2,603	NA	NA	NA	2,603
3. Ass't Secretary for Education	15,797	–	12,600	10,113	20,555
a. NCES (Statistics)	8,293	–	NA	–	8,293
b. FIPSE (Post-Secondary)	6,542	–	NA	10,113	11,300
c. Immediate Office	962	–	NA	–	962

(Continued)

Table 1. Federal expenditures for education knowledge production and utilization, by department and agency, FY 1975, as indicated in various data sources, together with NIE's composite estimate (dollars in thousands)--*Continued.*

Department and Agency	Four Data Bases				NIE's Estimate Obligations
	Obligations			Outlays	
	NAS	SRG	NSF	OMB	
I. Department of HEW *(Continued)*					
B. Public Health Service	21,496	25,655	3,800	9,285	47,151
1. ADAMHA	–	16,807	–	–	16,807
a. NIMH (Mental Health)	–	10,864	–	–	10,864
b. NIAA&A (Alcoholism)	–	3,135	–	–	3,135
c. NIDA (Drug Abuse)	–	2,808	–	–	2,808
2. Health Resources Adm.	14,775	–	–	1,850	14,775
a. Bur. Health Manpower	10,862	–	–	NA	10,862
b. Health Services Research	3,414	–	–	NA	3,414
c. Off. Planning & Legis.	499	–	–	NA	499
3. National Institute of Health	4,765	8,197	3,800	7,435	12,962
a.NICHD (Child Health)	–	7,030	NA	NA	7,030
b.NHLI (Heart & Lung)	4,265	–	NA	NA	4,265
c. NINCDS (Neurological)	–	1,167	NA	NA	1,167
d. Nat'l Library Medicine	500	–	NA	NA	500
4. Center for Disease Control	1,956	–	–	–	1,956
Bureau of Health Education	1,956	–	–	–	1,956
5. Health Services Administration	–	651	–	–	651
Bur. Community Health Serv.	–	651	–	–	651
C. Office Human Development	720	14,644	6,300	1,000	15,364
1. Off. Child Development	–	14,167	NA	NA	14,167
2. Administration on Aging	720	–	NA	NA	720
3. Off. Youth Development	–	440	NA	NA	440
4. Rehabilitation Services Adm.	–	37	NA	NA	37
D. Ass't Secretary Planning & Eval.	1,325	–	–	–	1,325
E. Social Rehabilitation Service	–	181	–	–	181
II. Department of Agriculture	56,142	578	–	–	778
A. Extension Service	55,634	–	–	–	0
B. Coop. State Research Service	40	578	–	–	578
C. Farmer Cooperative Service	268	–	–	–	0
D. Food & Nutrition Service	200	–	–	–	200

(Continued)

Table 1. Federal expenditures for education knowledge production and utilization, by department and agency, FY 1975, as indicated in various data sources, together with NIE's composite estimate (dollars in thousands)—*Continued.*

Department and Agency	Four Data Bases				NIE's Estimate (Obligations)
	Obligations			Outlays	
	NAS	SRG	NSF	OMB	
III. Department of Commerce	220	–	–	–	0
Nat'l Fire Prev/Control Adm.	220	–	–	–	0
IV. Department of Defense	–	–	–	–	21,451
A. Navy	–	–	–	–	8,721
B. Army	–	–	–	–	5,070
C. Advanced Research Proj. Agency	–	–	–	–	4,069
D. Air Force	–	–	–	–	3,591
V. Department of Interior	1,268	–	–	54	1,178
A. Bur. of Indian Affairs	1,128	–	–	54	1,128
B. National Park Service	130	–	–	–	50
C. Bur. of Land Management	10	–	–	–	0
VI. Department of Justice	–	–	–	2,265	0
Law Enforcement Ass't Agency	–	–	–	2,265	0
VII. Department of Labor	–	951	–	–	951
VIII. Department of State	1,447	–	–	14,587	1,447
AID	1,447	–	–	14,587	1,447
IX. Department of Treasury	–	–	–	168	0
Federal Law Enforc. Train Ctr.	–	–	–	168	0
Independent Agencies					
I. ACTION	–	12	–	–	12
II. Appalachain Regional Com.	1,300	–	–	1,955	1,300
III. Community Service Adm.	2,500	–	–	–	2,500
IV. Nat'l Endowment for the Arts	450	–	–	–	450
V. Nat'l Endowment Human.	17,061	–	–	46,112	17,061
VI. National Science Foundation	39,875	–	22,800	29,538	39,875
VII. Smithsonian Institution	3,187	–	–	–	3,187

SOURCES: National Academy of Sciences' "Study Project on Social Research and Development"; Interagency Panels for Research and Development on Early Childhood and Adolescence, Compiled by the Social Research Group (SRG) of George Washington University; An Analysis of Federal R&D Funding by Function, by the NSF's Division of Science Resources Studies; Office of Management and Budget's Special Analysis of Education.

films are neither school based nor skill oriented NIE excludes this program. SRG reports projects totaling $.6 million in this Division; NIE accepts this as the best estimate.

(3) Division of Follow-Through. NAS and SRG data differ for this division because SRG does not include technical assistance and policy formulation projects. Therefore, NIE accepts the NAS figure of $52.5 million as a best estimate.

(4) Division of Technology and Environmental Education. NAS and SRG data differ in this division because NAS omitted funding for "Sesame Street" and the "Electric Company" in FY 1975. Since these programs are concerned with basic skills, are used in many school systems, and have a strong evaluation component, NIE includes them in education KPU. Therefore, SRG's $6.7 million estimate for the Division is accepted as a best estimate.

(5) Division of Drug Education, Nutrition and Health Programs. Only NAS collected data from this division. Their figure of $.4 million, which is 10% of the Division's Budget, adequately represents support of education KPU.

In summary, NIE estimates a total of $70.3 million in KPU activity for the five Divisions in the Bureau of School Systems.

b. Bureau of Occupational and Adult Education. For this Bureau, NIE accepts the NAS estimate of $43 million because SRG does not include grants administered regionally. In addition, SRG's early childhood and adolescent focus precludes many of the projects funded by this Bureau.

c. Bureau of Education for the Handicapped. All four data bases provide estimates for this Bureau. NSF's definitional limits cause its estimate to be the lowest at $9.6 million. OMB's $37.5 million figure represents outlays which may involve prior year commitments. SRG's $44.7 million estimate include the projects for the Deaf/Blind Centers program. The $12 million Deaf/Blind Centers program supports services to children and some regional coordination. NIE agrees with NAS's judgment that the

purpose of the Centers is outside the education KPU boundaries, and accepts the NAS figure of $33.7 million as the best estimate.

d. Office of the Commissioner. In the Office of the Commissioner, there are three programs which are involved in education KPU: Office of Bilingual Education; Right to Read; and Office of Career Education.

(1) Office of Bilingual Education. Reconciling the discrepancies between SRG's estimate of $68.5 million and NAS's $4.7 million presents some unique problems. NAS codes $52.8 million as "Miscellaneous Demonstrations", a category excluded in their data base tabulations. Upon examination, NIE chooses to include these funds in KPU because all projects must be evaluated and other school districts may request copies of materials used in the demonstrations.

NAS codes as Training and Fellowships (also a category excluded from their tabulations): (1) program development--$3.8 million; (2) training resource centers--$3.6 million, and (3) vocational training for professionals and para-professionals in Bilingual education--$2.8 million. NIE agrees that most training should be excluded as non-KPU related, such as the vocational training.

However, NIE includes the $3.8 million program development as a relevant KPU activity since materials and curricula are developed for bilingual students; and includes the $3.6 million training resource centers as accomplishing a dissemination function.

For its best estimate, NIE accepts the project level SRG analysis of $68.5 million.

(2) Right-to-Read. SRG attributes $2.3 million to this, while NAS attributes $5.3 million. The reading academies demonstration programs are included in both estimates at $1.5 million. SRG, however, omits two programs included in the NAS estimate: community-based programs at $2.0 million and development of materials at $0.5 million. NIE accepts the $5.3 million estimate.

(3) SRG reports $8.2 million for the Office of Career Education; NAS reports $10.4 million. Because SRG

omits higher education activities, NIE accepts the $10.4 million estimate.

In summary, for the three offices under the Office of the Commissioner, NIE estimates a total of $84.5 million in KPU activity.

e. Office of Planning, Budget, and Evaluation. SRG reports $9.0 million; NAS reports $17.1 million. NIE discovered that the SRG data only cover projects within the Division of Mandated Studies and Evaluation. Back-up materials show that "evaluation and mandates" received $9.3 million. NIE judges the other programs included by NAS to fall within the specified boundaries, so accepts the $17.1 million estimate.

f. Bureau of Post-Secondary Education. The only available data for this Bureau are from NAS. Upon examination of the back-up material, NIE concludes that the Special Community Service & Continuing Education Program does not fall within its definition of education. Even though the program provides grants to institutions of higher education, its focus is on social and technological changes and environmental pollution. Therefore, $0.7 million has been deducted to arrive at a best estimate of $3.8 million.

g. Office of Indian Education. The Indian Education Act of 1972 mandates the Office of Indian Education to support human services and capacity building to meet the special education needs of Indian Children and Adults. Although the office has no research and development mandate, NIE considers several activities to fall within our definition of KPU--namely Special Projects for Indian children and adults.

Part b of the Act authorizes grants to support planning, pilot, and demonstration projects; educational services not otherwise available; exemplary educational programs; pre-service and in-service training for educational personnel; and the dissemination of information and materials.

Part c of the Act supports grants for service and developmental projects to improve the employment and educational opportunities for adult Indians.

NAS reported $3.3 million for this office, while SRG reported $11.5 million only for the Part b projects for children. In reconciling these data, NIE accepts the

$11.5 million SRG reports for Part b and adds $.7 million for Part c (adults). Thus, NIE estimates total KPU activity for the Office of Indian Education at $12.2 million.

h. Other. OMB reports $77.8 million in outlays in three categories which do not correspond to OE's organizational structure. The major component, education development, is drawn from programs throughout OE. NIE reports these categories to show how OMB reports its data, but does not include them in the NIE overall estimate.

2. National Institute of Education

Since NIE is the only Federal agency with an exclusively education KPU mission, we think it appropriate to include the agency's total funding. OMB's $82.7 million in outlays reflects NIE's higher funding level in previous years. NSF's $69.9 million excludes interagency transfers received by NIE. SRG's project level analysis omitted funds for salaries and expenses to operate the agency. In addition SRG's estimate is lowered by excluding dissemination activities such as ERIC (Educational Research Information Center). Since the NAS data include interagency transfers received by NIE, we accept the $73.8 million figure.

3. Assistant Secretary for Education

The Office of the Assistant Secretary contains three components conducting education KPU: National Center for Education Statistics; Fund for the Improvement of Post-Secondary Education; and the activities within immediate office of the Secretary. NSF reports only on ASE as a whole, not on its units; OMB reports outlays only for FIPSE; the NAS data inform us of KPU activity in the three areas.

a. National Center for Education Statistics. NCES is the primary source of educational statistical data for Federal policy-makers. NCES has several responsibilities beyond collection of periodic statistics (such as coordination of all data collection within the Education Division through the Education Data Acquisition Council). The activities included in the NAS data base are: statistical research data--$5.4 million; general purpose statistics--$2.5 million; and development of statistical programs--$0.4 million. Since these functions are included in NIE's definition of KPU which includes social-bookkeeping statistics, NIE accepts the NAS total of $8.3 million as the best estimate.

b. Fund for the Improvement of Post-Secondary Education. The authorizing legislation of FIPSE gives it the mandate to encourage "the reform, innovation, and improvement of post-secondary education". OMB reports $10.1 million in outlays for R&D; only the NAS data give a breakdown of activity in its $6.5 million estimate.

The NAS estimate excludes $4.5 million as "Miscellaneous Demonstrations" and $0.3 million in dissemination. Upon examination of project level material, NIE chooses to include this $4.8 million to make its total estimate $11.3 million.

c. Education Policy Research Centers (immediate Office of the Secretary). The immediate Office of the Secretary supports three centers, totalling $1.0 million. These centers conduct research in three areas: education of special needs groups; school finance and education delivery systems; and post-secondary education and society. NIE accepts the $1.0 million NAS estimate.

B. Public Health Service

Five major segments of the Public Health Service are involved in education KPU: the Alcohol, Drug Abuse and Mental Health Administration; the Health Resources Administration; the National Institutes of Health; the Center for Disease Control; and the Health Services Administration.

1. Alcohol, Drug Abuse and Mental Health Administration

Three agencies of ADAMHA are involved: National Institute of Mental Health; National Institute on Alcohol Abuse and Alcoholism; and the National Institute on Drug Abuse.

a. National Institute of Mental Health. Only SRG classifies any of the funds of this institute as being concerned with KPU. NAS classifies all the funds ($27.5 million) in their mental health policy area. NIE accepts SRG's estimate of $10.9 million because these funds support research relevant to education (e.g. the cognitive or socio-emotional development of children).

b. National Institute on Alcohol Abuse and Alcoholism. NAS classified none of this agency's funds as dealing with education ($12.1 million is classified as research under the substance abuse prevention and rehabilitation policy area), SRG classifies $3.1 million as education KPU. NIE accepts SRG's estimate because these funds are expended on educationally related research and on alcohol education curriculum for schools.

c. National Institute on Drug Abuse. As with the other two Institute of ADAMHA, NAS reports none of the funds as being applicable to education ($18.2 million being classified as substance abuse and prevention). SRG reports $2.8 million as being applicable. NIE accepts SRG's estimate since these funds are used for the development and demonstration of drug abuse curricula for schools, as well as studying adolescent development.

2. Health Resources Administration

Three segments of this Administration are involved in education KPU: Bureau of Health Manpower; National Center for Health Services Research; and the Office of Planning and Legislation.

a. Bureau of Health Manpower. Only NAS reports data from this Bureau. Upon examination of the back-up material, NIE accepts their estimate of $10.8 for health education since these programs are for the development and evaluation of new health training programs.

b. National Center for Health Services Research. NAS is the only data base to include this center. NIE accepts the NAS estimate of $3.4 million in health education.

c. Office of Planning, Evaluation and Legislation. The $.5 reported for this office by NAS is for evaluations of Health Education programs. NIE accepts this estimate.

3. National Institutes of Health

Four of the Institutes of NIH are involved in education KPU: the National Institute of Child Health and Human Development; National Heart and Lung Institute; National Institute of Neurological and Communicative Disorders and Stroke; and the National Library of Medicine.

a. National Institute of Child Health and Human Development. SRG classifies $7.0 million of this agency's obligations as education related. These funds are expended primarily on research with children. NAS reports no funds related to education for this Institute because it preferred to classify this work under its social services social policy area; education was a secondary purpose in their terms. However, NIE believes that SRG's examination of individual projects establishes the relevance of this work for education and therefore accepts SRG's estimate of $7.0 million.

b. National Heart and Lung Institute. NAS is the only data base which includes this Institute. Upon examination of the back-up material NIE accepts NAS's estimate of $4.3 million in the health education area.

c. National Institute of Neurological and Communicative Disorders and Stroke. SRG is the only data base which includes any of this Institute's projects as education related. These projects focus on the cognitive development of children. NIE, therefore, accepts SRG's estimate of $1.2 million.

d. National Library of Medicine. Only NAS reported any activity by the NLM. After examining the back-up material NIE accepts the NAS estimate of $.5 million.

4. Center for Disease Control

One bureau of this agency, Bureau of Health Education, is involved in KPU. NAS is the only data base reporting KPU activity for development of health related curricula for schools. NIE accepts NAS's estimate of $1.9 million for this agency.

5. Health Services Administration

SRG reports KPU activity for HSA's Bureau of Community Health Services involving research on the cognitive development of children. Because this type of research falls within NIE boundaries of KPU, NIE accepts SRG's estimate of $.6 million.

C. Office of Human Development

Four segments of the Office are involved in education KPU: Office of Child Development; Administration on Aging; Office of Youth Development; and the Rehabilitative Services Administration.

1. Office of Child Development

SRG is the only data base which includes projects or programs in OCD dealing with early childhood education and basic research on the cognitive and socio-emotional development of children. NIE, therefore, accepts the SRG estimate of $14.2 million.

2. Administration on Aging

NAS is the only data base which includes this administration, coding as education demonstration projects that deal with classroom instruction for the elderly. It is a question whether to include these projects or not. NIE would rather err by including too much than too little, so it accepts the estimate of $.7 million.

3. Office of Youth Development

Only SRG includes this office as having any involvement in education KPU. The projects SRG includes are concerned with curriculum development and teaching techniques. Therefore, NIE accepts the SRG estimate of $.4 million.

4. Rehabilitation Services Administration

Again SRG's is the only data base to include this administration. Projects which involve education deal with cognitive development or secondary schools. NIE accepts SRG's estimate of $37,000.

D. Assistant Secretary for Planning and Evaluation

NAS reports a total of $1.3 million for KPU in ASPE--$0.7 million for policy research, and $0.6 million for evaluation. Funding includes both education and health education policy areas. NIE accepts the NAS estimate.

E. Social and Rehabilitative Services

SRG is the only data base to include this agency as being involved in KPU. Although the bulk of this program deals with health and welfare services, the portion concerning day care demonstration projects is considered to fall within the boundaries of KPU. NIE accepts the SRG estimate of $.2 million.

II. Department of Agriculture

Four services of this department, according to NAS, are involved in KPU: Extension Service; Cooperative State Research Service; Farmer Cooperative Service; and Food and Nutrition Service.

A. Extension Service

The $55.6 million NAS reports for this service are for funds for County Agent Assistance to 4-H clubs. NIE chooses to exclude these funds from education because the 4-H clubs are neither school based nor concerned with the skills taught in schools.

B. Cooperative State Research Service

NAS reports obligations totalling $.04 million while SRG reports obligations of $.6 million. This large discrepancy is a result of the KPU activity of this service being basic research on the socio-emotional and cognitive functioning of children. SRG codes this type of research as education while NAS does not. NIE accepts SRG's estimate of $.6 million.

C. Farmers Cooperative Service

NAS classifies programs which develop economic information for farmers as the development of educational materials. Because there is no relationship to schools in either the content of the materials developed or the target population, NIE chooses to exclude these funds.

D. Food and Nutrition Service

NAS reports $.2 million within the Child Nutrition Program for the development of materials. Because these materials are distributed through the schools and are part of the curricula on nutrition, NIE accepts this estimate.

III. Department of Commerce

NAS reported one agency of this Department, the National Fire Prevention and Control Administration, as having involvement in KPU. The funds are appropriated for a National Center for Training Fire-Fighters and programs on fire prevention. Because neither of these activites involve schools or school-aged children directly, NIE chooses to exclude these funds.

IV. Department of Defense

None of the data bases report KPU by the Defense Department. However, upon examination of NAS's backup material, NIE concludes that four agencies are involved in KPU: the Departments of Navy; Army: Air Force; and the Advanced Research Projects Agency. NAS classifies these funds in their employment, manpower and training policy area.

A. Department of the Navy

NIE chooses to include programs totalling $8.7 million as KPU. These programs involve research, development, and evaluation of computer assisted and managed instruction, and research in the assessment of individual differences in information processing.

B. Department of the Army

The programs of the Department which NIE chooses to classify as KPU include research on the occupational decision-making of high school students and learning of complex tasks; the development of IQ test; and research, development and evaluation of computer assisted and managed instruction. NIE estimates total KPU obligations of the Army to be $5.1 million.

C. Advanced Research Projects Agency

NIE estimates this agency to support programs totalling $4.1 million in basic research on cognitive processes and research, development and evaluation of computer assisted instruction.

D. Department of the Air Force

NIE chooses to include as KPU programs involving the development of vocational aptitute tests and research, development and evalution of computer managed individual instruction, totalling $3.6 million.

V. Department of the Interior

NAS reports three segments of this department as involved in KPU: Bureau of Indian Affairs; National Park Service ; and Bureau of Land Management.

A. Bureau of Indian Affairs

Within this Bureau, the Office of Indian Education obligates $1.1 million in KPU activity. These funds support the development and evalution of curricula for early childhood education of Indian children. NIE accepts the NAS figure of $1.1 million.

B. National Park Service

NAS reports two programs within this service as KPU: the development of curriculum materials in enivronmental education ($50,000); and dissemination of archeological findings ($80,000). Because the materials in the environmental educational program are for schools, NIE accepts this program as KPU. The archeology dissemination program, which NAS classifies as cultural affairs, appears outside of NIE's boundries of KPU because museums are the target population. Therefore, NIE excludes this program.

C. Bureau of Land Management

A study of rock art is coded as cultural affairs. NIE chooses to exclude this study as not concerned with KPU.

VI. Department of Justice

OMB is the only data base reporting KPU activity for this Department. These funds are expended by the Law Enforcement Assistance Agency. Because OMB reports only outlays and we are unable to examine the backup material, NIE chooses to exclude these funds.

VII. Department of Labor

SRG is the only data base reporting KPU activity in this Department. NAS reports all Department of Labor activity in their employment, manpower and training social policy area. The projects which SRG reports as KPU deal with the development of curricula, the investigation of teaching techniques and studies of secondary and post-secondary educational institutions. NIE accepts SRG's estimate of $.9 million.

VIII. Department of State

Both NAS and OMB report KPU activity in the Agency for International Development. These funds are expended overseas. AID provides funds in the areas of educational technology, higher education, and health education; it also supports document and reference information services. Because NIE could not examine OMB's back-up material, NIE accepts NAS's estimate of $1.4 million.

IX. Department of the Treasury

OMB is the only data base reporting KPU activity for this Department. These funds are spent by the Federal Law Enforcement Training Center. Because OMB reports only outlays and does not provide backup material, NIE chooses to exclude these funds.

Independent Agencies

Eight independent agencies are involved in KPU activity: ACTION, Appalachian Regional Commission, Community Services Administration, National Endowment for the Arts, National Endowment for the Humanities, National Science Foundation, and the Smithsonian Institution.

I. ACTION

SRG reports $.01 million in evalution of ACTION's programs in which youth are the volunteers. These evalutions are concerned with the occupational impact on the volunteers. NIE chooses to accept SRG's estimate because the programs emphasize career education.

II. Appalacian Regional Commission

NAS is the only data base reporting funds for this agency. The funds support demostration projects in school systems in the Appalacian region. NIE accepts NAS's estimate of $1.3 million.

III. Community Services Administration

NAS reports $2.5 million in policy implementation demonstration in education. However, it was difficult to ascertain from the back-up material the exact scope of these programs. NIE accepts the NAS estimate because the NIE and NAS definitions of KPU are similiar.

IV. National Endowment for the Arts

NAS reports $.4 million for this agency in KPU activity. This activity is classified as evalution in the cultural affairs policy area. NIE could not obtain details of this program. Since NIE would rather err by including too much than too little, it accepts this estimate.

V. National Endowment for the Humanities

NAS reports $I7.1 million in KPU activity for this agency. The bulk ($14.4 million) of these funds is for the development of materials, with other funds for dissemination activities. Because the content of these programs is concerned with curricula of schools, NIE accepts the NAS estimate of $17.1 million.

VI. National Science Foundation

Three data bases (NAS, NSF, OMB) report KPU activity for NSF in the area of science education. NSF's figure is less than NAS's because NSF does not include funds for dissemination or policy demonstrations, which total $17.1 million. NIE accepts NAS's estimate of $39.9 million.

VII. Smithsonian Institutions

NAS is the only data base to include this agency, reporting $3.2 million for school oriented programs. NIE accepts NAS's estimate because these programs deal directly with schools.

SUMMARY AND CONCLUSIONS

NIE estimates the total FY 1975 obligations of the Federal Government for KPU to be $513 million. This amount is within the bounds estimated in the 1976 Databook (NIE, 1976), which reported the most likely figure for Federal sponsorship was $470 million, with a lower bound of $430 million and an upper limit of $520 million. Of the $513 million estimate, $422.8 million (82.4%) is obligated by the Department of Health, Education and Welfare. No other department or agency accounts for even 10% of the funds. Within HEW, the Education Division accounts for $358.8 million (84.8%) of the obligations. In fact, the Education Division accounts for 69.9% of all Federal KPU funding. The Office of Education obligates $264.4 million on education KPU which is 51.5% of total Federal obligations. Even though NIE is supposed to be the lead agency in educational KPU, it accounts for only 14.4% of total obligations.

Although this report provides funding data on education KPU activity throughout the Federal Government, a number of key questions remain unanswered:

- o Do different agencies and programs support different types of research functions (e.g. research, development, demonstrations, dissemination, evaluation)?
- o Do different agencies or programs differ by the types of problem areas, performing organizations, or target groups on which they focus?

NIE is presently conducting two studies to answer these questions. First is a further analysis of the NAS study focusing on KPU functions supported by the various agencies. Second is project level analysis of the SRG data base using a variety of content variables, performer characteristics, and target groups in addition to KPU function to describe the projects supported by the various agencies.

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